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Aspects on gender, quality of life and diastolic function in patients with cardiovascular disease and type 2 diabetes

AKADEMISK AVHANDLING

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ABSTRACT

Background

A majority of patients with type 2 diabetes mellitus (T2DM) suffer and die from a cardiovascular disease (CVD). Because of the increasing prevalence of diabetes, it today rivals smoking, hypertension and hypercholesterolemia as a major risk factor for CVD resulting in a need for more attention and further investigations.

Aims

In patients with T2DM to

1. explore the role of gender on the development of cardiovascular (CV) events and mortality following acute myocardial infarction (MI)
2. analyse the association between self-reported health and survival after acute MI
3. investigate if insulin therapy influences treatment satisfaction and psychological well-being in patients surviving acute MI
4. assess the progress of early signs of left ventricular (LV) diastolic dysfunction

Prognosis after acute MI

Eight hundred thirty seven men and 416 women with T2DM and acute MI were followed for a median of 2.1 years. Women were older and had higher prevalence of concomitant diseases compared with men. Total mortality did not differ between the genders. The combined endpoint of death and non-fatal MI or stroke was more common among women than men (39% vs. 32%, $p=0.012$). The difference disappeared after adjusting for age.

Predictive power of self-rated health

Prospective associations between self-rated health reported by Rating Scale (RS) and all-cause mortality, CV death and CV events were assessed in 465 patients with T2DM and acute MI. The RS score predicted CV events (HR; 95% CI 0.87; 0.80-0.95) and all-cause mortality (0.86; 0.76-0.97) in unadjusted analyses. Corresponding HR after adjustment for potential confounders were 0.90; 0.83-0.99 and 0.90; 0.79-1.02 respectively.

Satisfaction with treatment and psychological well-being

To determine effects of insulin-based treatment the Diabetes Treatment Satisfaction Questionnaire (DTSQ) and the Psychological General Well-being index (PGWB) were administered to 324 patients with T2DM and acute MI at baseline and after 12-months. Insulin treated patients ($n=197$) had a worse risk profile and more co-morbidity at baseline than patients on oral glucose lowering agents ($n=127$). Insulin-based therapy was well accepted. Treatment satisfaction and psychological well-being were similar between patients treated with insulin and oral drugs at baseline. It improved significantly in both groups and remained similar at 12-months.

Left ventricular diastolic function in patients with T2DM

Paired data from 73 patients with T2DM and no apparent CVD was available for assessment of LV diastolic function. At baseline LV diastolic dysfunction was observed in 38 patients (52%). During follow-up it normalized in 20 (53%) of these patients and remained unchanged in 18 (47%). Of 35 (48%) patients with normal LV diastolic function at baseline 8 (23%) patients developed dysfunction.

Conclusions

Diabetes specific risk factors contribute to coronary artery disease and impaired myocardial function. Better understanding of the aspects of gender and quality of life may help to identify patients at risk for CV events and mortality and improve their outcomes. Insulin treatment had similar acceptance as oral glucose lowering treatments among patients with T2DM and established CVD and could be started as needed without adding any burden to the patient. Progression of LV diastolic function in patients with T2DM and no other CVD seems to be slower than earlier described and might even regress over time.